

SHARED QUEUE FOR MULTIPLE INPUT-STREAMS

ABSTRACT OF THE DISCLOSURE

5 A queuing system uses a common buffer for receiving input data from multiple-inputs,
by allocating memory-elements in the common buffer to each input-stream, as the streams
provide their input data. To allow for an independently controlled unloading of the individual
data-items from the multiple-input common buffer, the system maintains a mapping of the
memory locations of the buffer that is allocated to each data-item in each input-stream. To
10 minimize the memory and overhead associated with maintaining a mapping of each data-item,
memory locations that are allocated to each input-stream are maintained in a sequential, first-in,
first-out queue. When a subsequent receiving device acknowledges that it is ready to receive a
data-item from a particular input-stream, the identification of the allocated memory location is
removed from the input-stream's queue, and the data-item that is at the allocated memory in the
15 common buffer is provided to the receiving device.